527

Relative and absolute pressure transmitter
Operating instructions

Huba Control

English

Range of application for the pressure transmitter type 527

The pressure transmitter is used to measure relative and absolute pressure of liquid and gases.

Device design without explosion protection

The pressure transmitter consists of a piezoresistive ceramic measuring cell with a diaphragm, installed in a stainless steel housing. This transmitter is available with various connector types, IP protection standards as well as current- and voltage outputs..

Device design with explosion protection

The pressure transmitter consists of a piezoresistive ceramic measuring cell with a diaphragm, installed in a stainless steel housing. It can be electrically connected with a plug complying with EN 175301-803-A (IP65) or a round plug M12 (IP67). The output signal is 4 to 20 mA.

Installation

- The location of the device has no influence on the precision of the measurement.
- Before installation, compare the process data with the data of the name plate.
- The medium being measured must be suitable for the parts of the pressure transmitter in contact with the medium.
- Connect the devices to a fixed cable installation.
- The devices may only be installed, connected, set-up and operated by qualified staff and in compliance with the technical specifications.
- The effects of UV radiation can cause materials to become brittle.
  Protect the device from direct sunlight.

Grounding for ⟨Ex⟩ devices

The pressure transmitter must be connected to the equipotential bonding system of the plant via the metal housing (process connection) or the ground conductor of the plug.

Safety instructions

In terms of a safety-instrumented system, this device left the factory in perfect condition. To maintain this status and to ensure safe operation of the device, observe the following notes:

⚠ The device may only be used for the purposes specified in these instructions.

- When connecting up, installing and operating the device, the directives and laws of your country apply.

- Devices with the type of protection "intrinsic safety" lose their approval, if they are operated on electrical circuits that do not conform to the test certification valid for your country.
- The device is not used properly, serious bodily injury and/or considerable damage to property cannot be excluded. This should be kept in mind particularly when the device was in use and is replaced.
- The installation, mounting and commissioning of the Ex devices should be performed only by trained personnel and should comply with the standards EN 60079-14 and EN 61241-14.
- The transmitter is preset to the specific measuring range at the manufacturer's plant. An additional setting is not possible.
- The overload limit should be monitored and kept to at all times.
- The transmitter is maintenance-free.
- Connect the device to a low voltage power supply with safe separation (SELV).
- The device should only be supplied with limited energy according to UL 61010-1 Second Edition, Section 9.3 or LPS in conformance with UL 60950-1 or class 2 in compliance with UL 1310 or UL 1585.

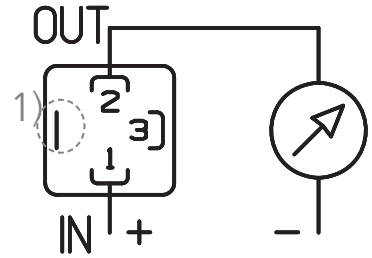
Tests / Admissions

Electromagnetic compatibility:	CE conformity acc. EN 61326-2-3
Shipbuilding:	Germanischer Lloyd American Bureau of Shipping Bureau Veritas Det Norske Veritas Lloyds Register
Shock acc. IEC IEC 68-2-27:	100 g, 11 ms half sine wave, all 6 directions, free fall from 1 m on concrete (6x)
Constant shock acc. IEC 68-2-29:	40 g for 6 ms, 1000x all 3 directions
Vibration acc. IEC 68-2-6:	20 g, 15 ... 2000 Hz, 15 ... 25 Hz with amplitude ± 15 mm, 1 Octave/min. all 3 directions, 50 constant load
Protection against explosion:	Ex II 1/2 G Ex ia IIC T4 Ga/Gb Ex II 1/2 D Ex ia IIC T125°C Da/Db
EC type examination certificate:	SEV 10 ATEX 0145

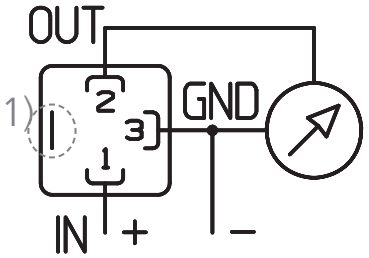
Electrical Connection

2-wire 3-wire

Connector DIN EN 175301-803-A or -C



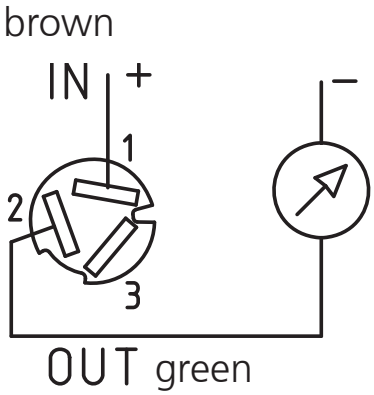
1 (IN) 2 (OUT)

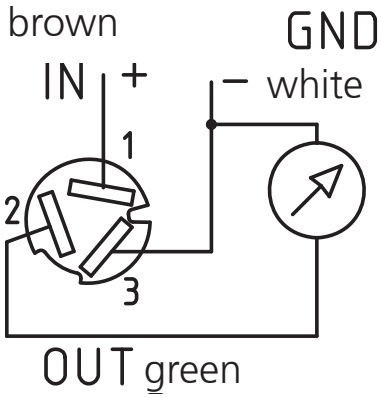


1 (IN) 2 (OUT) 3 (GND)

[1] Not connected with transmitter housing

Swift connector

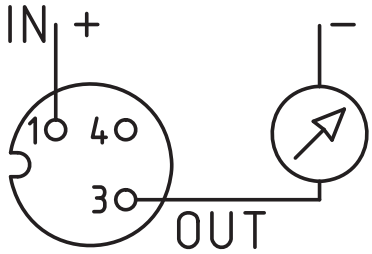




1 (IN) 2 (GND) 3 (OUT)

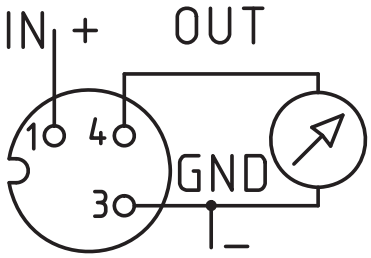
2-wire

Connector M12x1

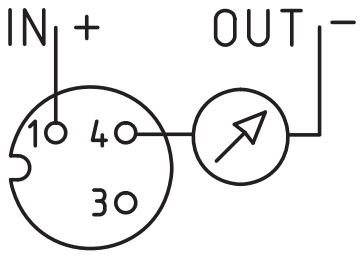


1 (IN) 3 (OUT)

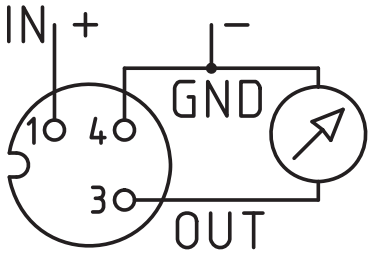
4-wire



1 (IN) 4 (OUT) 3 (GND)



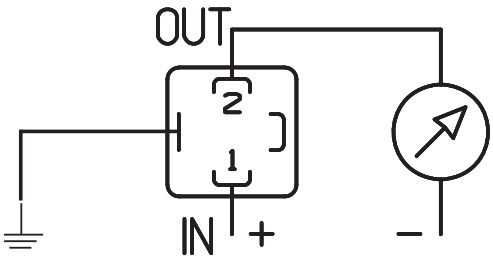
1 (IN) 4 (OUT)



1 (IN) 3 (OUT) 4 (GND)

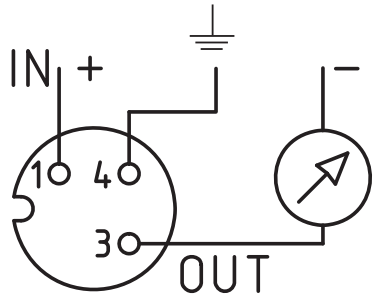
Device design with explosion protection: 4 ... 20 mA
The grounding connection is conductively connected to the transmitter housing.

Connector DIN
EN 175301-803-A (Ex)



1 (IN) 2 (OUT)

Connector M12x1 (Ex)



1 (IN) 3 (OUT) 4 (⏚)

Pressure transmitter type 527

Additional notes on installation

The following conditions relating must be met:
Operation is permitted only when connected to certified intrinsically-safe resistive circuits with the following maximum values:

$U_i \leq 30$ V
$I_i \leq 100$ mA
$P_i \leq 750$ mW
internal inductance Li = 0 nH
internal capacitance Ci = 0 nF

A maximum ambient air temperature T_a of -25 to +85 °C is permitted for the pressure transmitter.

Use as a resource belonging to category 1/2:

The pressure transmitters can be mounted in the wall separating the area with category 1 requirements (zone 0) and the area with category 2 requirements (zone 1). In this case, the process connection must be adequately sealed in compliance with EN60079-26, clause 4.6, for example by providing degree of protection IP67 in compliance with EN60529. The supply must be via intrinsically safe circuits with type of protection ia. The measuring cell may only be used for flammable materials to which the diaphragms of the measuring cells are adequately resistant both chemically and in terms of corrosion.

The date of manufacture can be seen on the label of the pressure transmitter, for example:

YYMMDD-XXX-XX-XXXX

Date as „year-month-day“ (1)
3 digits of the order number
Order position
Single part number

(1) YYMMDD - example 100912

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